



THE AMERICAN  
SOCIETY FOR  
CELL  
BIOLOGY

*Thirty-second Annual Meeting*  
*Program*



*Denver, Colorado*  
*November 15-19, 1992*  
*Colorado Convention Center*

## SUBGROUP J

Room A207

## MODERN BIOLOGY AND PUBLIC POLICY

Organizer: **S.C. Tripathi**  
IIT Research Institute, Chicago

Biomedical sciences, scientists, and institutions are increasingly being exposed to public action and scrutiny. It is, therefore, important to investigate a whole variety of roles that biologists must play in the areas of economic, scientific, and technological development of modern society. Biologists are expanding their horizons beyond the realm of their laboratories—to the world of decision makers and facilitators of the decision making processes in government as well as industry, thus providing the opportunities to contribute more directly and significantly to the welfare of society.

As we move closer to the twenty-first century, we the biologists are working closer with professionals from other disciplines to formulate public policies. The fascinating policy-making in biomedical and biotechnical areas poses a wide variety of challenges. The issues at stake are: under- or over-regulation, national and global competitiveness, post-cold war control of bio-warfare agents, under-defined public policies and postures of governments, declining biomedical funding as a universal trend and finally, failure of our educational system in communicating to the public about the pros and cons of newly evolving technologies.

The goal of this subgroup meeting is to bring together an interdisciplinary group of participants from life sciences, economics, political science, law, environment, engineering, and so forth and organize a discussion on why, when, where, and how should the various groups act towards the common good.

## SUBGROUP K

Room C112

## MICROSCOPIC DETECTION OF SIGNALING EVENTS DURING DEVELOPMENT

Organizers: **H. Florman**  
Worcester Foundation for Experimental Biology,  
Shrewsbury  
**R. Cardullo**  
University of California, Riverside

The goal of this subgroup meeting is to introduce participants to alternative methodologies for studying important problems in developmental and molecular biology using quantitative microscopy. The speakers will cover a variety of topics including ion regulation during embryogenesis and the cell cycle, receptor-effector coupling, transcriptional control, and signalling events during development. Emphasis will be on specific methodologies and application to developmental systems at the molecular and cellular level.

## SPEAKERS INCLUDE:

**Analysis of Ion-Transport in Single Pre-Implantation Embryos.** *J. Baltz*, Harvard Medical School, Boston

**Signal Transduction during Vertebrate Mesoderm Induction.** *W. Busa*, Johns Hopkins University, Baltimore

**Single-Molecule Analysis of DNA Transcription by *E. coli* RNA Polymerase.** *J. Gelles*, Brandeis University, Waltham

**Calcium Control of the Meiotic and Mitotic Cell Cycle.** *R. Tombes*, Clemson University

## SUBGROUP L

Room C106

## MECHANICAL DEFORMATION AND CELL RESPONSES

Organizers: **A.J. Banes, Jr.**  
University of North Carolina, Chapel Hill  
**H. Vandenburgh**  
The Miriam Hospital, Brown University,  
Providence

The subgroup will involve discussion and presentations on recent advances in application of mechanical deformation to target cells in vitro and specific responses such as effects on DNA synthesis and cell division, second messenger responses, growth factor elaboration and/or response, cytoskeletal filament responses, and integrin expression.

We will include talks on cytoplasmic filament proteins, signalling pathways, and integrins if possible and would like to conduct the subgroup meeting in a WORKSHOP FORMAT to encourage interaction with all those in attendance. Please bring one or two slides and join in the discussion on how cells respond to mechanical load.

## SPEAKERS INCLUDE:

**The Effects of Mechanical Stress on Vascular Cells.** *S. Dethlefsen*, The Children's Hospital, Boston

**The Effects of Load on Cardiac Myocyte Differentiation In Vitro.** *L. Terracio*, University of South Carolina, Charleston

**Mechanics of Cell Deformation.** *L. Thibault*, University of Pennsylvania, Philadelphia

**Striated Skeletal Myocytes: Hormonal and Growth Factor Responses with Mechanical Load.** *H. Vandenburgh*, Miriam Hospital, Providence

**Differential Mitogenic Signaling and Mineralization Responses of Bone, Muscle, and Tendon Cells in Response to Cyclic Mechanical Load In Vitro.** *A.J. Banes*, University of North Carolina, Chapel Hill

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11:00 AM - 8:00 PM	REGISTRATION (LOBBY B)						
1:00 PM - 5:30 PM	EDUCATION COMMITTEE WORKSHOP (ROOM A201)			FLUORESCENCE AND IMMUNOLOGICAL TECHNIQUES IN CELL BIOLOGY Organizer: B.R. Brinkley, Baylor Coll of Med, Houston			
	Autoantibodies as Probes for Studies of Centromere Structure Biochemistry RAYMOND ZINKOWSKI, Univ of Alabama at Birmingham	Multicolor Fluorescence In Situ Hybridization for Gene Mapping DAVID WARD, Yale Univ, New Haven	Immunofluorescence as a Tool to Study Molecular Organization of the Nucleus DAVID SPECTOR, Cold Spring Harbor Lab	Fluorescence Resonance Energy Transfer in the Study of Signal Transduction in Living Cells ROGER TSIEN, Univ of California, San Diego	Microinjection of Fluorescent Antibodies for Studies of Actin and Myosin in Living Cells YU-LI WANG, Worcester Fdn, Shrewsbury	Immunofluorescence and Confocal Microscopy of Dense and Thick Samples JAN DEMAY, EMBL, Heidelberg, Germany	
2:00 PM - 5:30 PM	SPECIAL INTEREST SUBGROUP MEETINGS						
	A. (Room A103) Algae as Experimental Systems II. (begins Saturday, November 14, 1:00 - 10:00 PM and continues Sunday, 9:00 AM - 5:30 PM) B. (Room A105/107) Endothelial Cell Heterogeneity and Organspecificity. C. (Room A109/111) Phage Display of Proteins and Peptides. D. (Room A108) Signal Transduction Mediating Gene Expression for Cell Growth and Differentiation. E. (Room C102) The ASCB Educational Video Project: A Call for Sequences. F. (Room A102) New Frontiers in Medical Rehabilitation Research: Cellular Aspects of Rehabilitation. G. (Room A104/106) What Are the Roles of the Multi-Drug Resistance-Like (MDR-like) Transporter? H. (Room C104) Intermediate Filament Function at the Cellular and Organismic Levels. I. (Room C105/107) The Recognition of Electric and Magnetic Fields by Biological Tissues and Its Functional Consequence. <u>J. (Room A207)</u> Modern Biology and Public Policy. K. (Room C112) Microscopic Detection of Signaling Events during Development. L. (Room C106) Mechanical Deformation and Cell Responses. M. (Room C101/103) Chromosomes Structure and Epigenetic Regulation. N. (Room C108/110) Roles for the Cytoskeleton and Motor Proteins in Endomembrane Traffic. O. (Room C109) Towards a Quantum Biology of Excitation. P. (Room A209) A Family of Calcium-dependent Phospholipid-binding Proteins.						
7:00 PM - 8:00 PM	SCIENCE POLICY ADDRESS (HALL A) SENATOR HANK BROWN, (R-CO)						
8:00 PM - 9:00 PM	SCIENCE KEYNOTE ADDRESS (HALL A) MICHAEL S. BROWN and JOSEPH L. GOLDSTEIN, Univ of Texas Southwestern Med Ctr, Dallas			HOW PROTEINS GET PRENYLATED			
9:00 PM	RECEPTION (BALLROOM 1/2/3)						
9:00 PM	STUDENT RECEPTION (BALLROOM 4)						

## LIST OF PROPOSED SPEAKERS

Mary E. Clutter, National Science Foundation, Washington, D.C.

Paul Doty, Kennedy School of Government, Harvard University, Cambridge

Thomas S. Edgington, Chairman, Public Affairs Executive Committee, Federation of American Societies for Experimental Biology and The Scripps Research Institute, La Jolla, California

Rogier A.H.G. Holla, Technology and Policy Program, Massachusetts Institute of Technology, Cambridge

Senator Patrick J. Leahy and Michael D. Fernandez, The United States Senate, Washington, D.C.

Thomas E. Pollard, ASCB Public Policy Committee, Johns Hopkins University School of Medicine, Baltimore

Govindan Parayil, Illinois Institute of Technology, Chicago

Fernando Quezada, Biotechnology Center of Excellence, Boston

Satish C. Tripathi, IIT Research Institute, Chicago and Massachusetts Institute of Technology, Cambridge

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